We Claim:

1. A fuel battery made by stacking a plurality of generating structures, each generating structure comprising a square shaped generating section made by joining gas diffusion electrodes to both surfaces of an electrolyte layer, comprising:

an insulating spacer surrounding a parametric edge of the generating section, wherein the spacer includes a center opening for containing the generating section in alignment, the center opening having a perimeter and four side edges;

a plurality of separators, each separator formed in its center with a gas supply section having a contact for contacting the generating section, wherein an upside and an underside of the center opening is formed with an attachment seat for attaching to the separator;

a gas flow groove seated over the generating structure such that the gas supply section faces the generating section;

a wide vent opening on each of the four side edges of the center opening, whereby an area between each vent opening and each side edge of the center opening contains vent step grooves for passing gas and fit step grooves to be closed with the separator on the upside and underside of the center opening and placed by turns along the parametric edge;

wherein the separator is composed of metallic sheet and is formed with square gas supply sections, the parametric sections are formed with four wide vent holes respectively conforming to the vent openings of the spacer in the direction of the plurality of generating structures; and

a raised portion on a side of the separator for fitting into the fit step groove is formed between each side edge of the gas supply section and each vent hole, wherein each raised portion forms a communication groove communicating with the vent hole and the gas supply section along the planar direction and joins with the vent step groove of the spacer.

2. The fuel battery of Claim 1, wherein the gas supply sections on both surfaces of the separator comprise a plurality of projections projecting on both surface sides and having contact portions near the peaks for contacting the generating section, and mesh-like gas flow grooves formed among the peaks of the projections.

3. The fuel battery of Claim 1, further comprising a support member placed in the width direction inside the mutually joined vent step groove and communication groove to bring the inside end on the vent step groove side into contact with the end portion of the generating section in the thickness direction.